



ORAN: A TRADITIONAL SYSTEM FOR CONSERVATION OF BIODIVERSITY IN INDIAN THAR DESERT

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ABSTRACT

The native people of Thar Desert have a system of traditional natural resource management by maintaining Orans (Sacred grove). These Orans preserve the endemic, endangered and economic important plant species, and thereby play important role in biodiversity conservation. However, most of them are being destroyed due to modernization and mismanagement therefore, appropriate management is required for their protection.

KEY WORDS: Biodiversity, Communities, Desert, Oran, Sacred grove, Traditional system.

INTRODUCTION

Sacred grove known as Oran in Thar Desert of Rajasthan are the natural forest patch, worshipped and conserved by indigenous communities on religious grounds. These forest pockets show optimum growth of vegetation relevant to local terrain and climate. Such groves are a very ancient and widespread phenomenon in the old world cultures. They are mentioned in Greek and Sanskrit classics and reported to exist today in number of countries besides India.

Orans are not well classified and defined in the revenue records they simply fall under "Culturable Waste Land" category. These account for about 9% of the desert area in Rajasthan while the area under an Oran can vary from a few square meters to several hundred hectares (Mukhopadhyay, 2008). Bhadriya Rai Oran in Jaisalmer districts has 15000 hectares, where as kundla's Oran has 7500 hectares in Barmer district of Rajasthan state. Generally each Oran has have temple of god or goddess where people worship Bheruji, Badi Roopan Mata, Bawsi, Mataji and Saint etc.

These sacred groves are under the control of temples and managed by the village communities. Many communities established rules (customs) to ensure their protection, these rules vary from grove to grove. Hunting, felling of trees and agricultural practices are usually strictly prohibited in the holy land of the Orans from ancient period (Gadgil and Vartek, 1994; Robbins, 1998). However, native people collect wild fruits, vegetable, gum and green grass and dry wood without cutting of the green trees and shrubs. The people believe that any kind of disturbance will crucially affect the local deities, causing diseases, natural calamities or failure of crops. Many accounts emphasize the threat of divine retribution, and cautionary tales of divine punishment by blinding and paralysis are common (Gadgil and Vartek, 1994).

The Bishnoi community is known for the conservation and protection of Khejari tree (*Prosopis cineraria*), a life supporting multipurpose 'keystone species' for the region, and has become part of social and cultural life. There is a story of Amrita Devi a Bishnoi woman who, along with more than 366 other Bishnois, died saving trees in the year 1730, at village Khejadli of Jodhpur district in Rajasthan (Mukhopadhyay, 2008). In Desert region, the Khejari tree, is worshipped for its immense ecological and religious value.

Tecomella undulata another multipurpose tree of Desert locally known as Rohida, is protected traditionally in – a sacred grove of Marwar teak or "Oran of Mahadevji", situated at the Akoli village of Jalore district, Rajasthan. It has become endangered mainly due to indiscriminate exploitation for quality timber but the Oran of Rohida has several 1 to 120 years old plants in 30–35 ha area (Meena *et al.*, 2012). Indigenous societies believe that the tree is blessed by Lord Shiva due to faith and sanctity, the Oran is free from encroachment and indiscriminate exploitation.

Orans are repositories of rich biogenetic diversity and venues of local and universal manifestation of aesthetic tradition and socio-secrecies. Plants commonly found in these Orans are – Khejari- *Prosopis cineraria*, Ber- *Ziziphus nummularia*, Ker - *Capparis decidua*, Jal - *Salvadora* sps., Rohida - *Tecomella undulata*, Aak - *Calotropis procera*, Kumat - *Acacia senegal*, Babul - *Acacia nilotica*, Sewan- *Lasiurus indicu*, Bhurat (*Cenchrus biflorus*), Dhaman (*Cenchrus ciliaris* and *C. setigerus*), Tumba - *Citrullus colocynthis*, etc. (Singh and Saxena 1998; Mukhopadhyay, 2008; Singh, 2010; Meena and Singh, 2012).

Orans preserve the endemic, endangered or threatened species hence function like 'mini biosphere reserves'. In Indian Thar Desert these maintain many endangered and threatened species of medicinal significant plants include; gugul- *Commiphora wightii* (Burseraceae), pampa - *Caralluma edulis* (Asclepiaceae), khiroli- *Glossonema varians* (Asclepiaceae), etc. (Gehlot *et al.*, 2014). They are valuable to village communities as well as modern pharmacopoeia, and they contain wild relatives of crop species that can help to improve cultivated varieties.

Among them perennial species make up more than 35% of Oran ground cover, and this is crucial for promoting a flourishing livestock production and growth of pastoral communities (Robbins, 1998). Orans render ecological services such as traditional water body, shelter and breeding sites for birds and animal, include jackals, deers, rabbits, lizards, gerbil, snakes, Desert fox and cat, mongooses, squirrels and birds peacock etc. These Orans are prime habitat for many desert animals like Chinkara (*Gazella bennetti*) and critically endangered Great Indian Bustard (*Ardeotis nigriceps*) - the state bird of Rajasthan. Plants in the sacred groves often exhibit great vigour and magnificence and add grandeur to the locality. In the management of Orans, ecologically valuable species perform key functions in the ecosystem thereby contributing to the support and enhancement of biodiversity.

Sacred groves are the result of a complex ethno-scientific thinking of the local communities. Today, the government is spending a huge amount on preserving wildlife sanctuaries for gene-pool conservation, but still they are not able to maintain the standards of protection that existed in the old sanctuaries such as Orans. Unfortunately, most of these valuable Orans have been destroyed because of modernization, land use patterns, expansion of villages, illegal occupation, severe overgrazing and mismanagement, etc.

Participation of native people, Government, Non Government Organizations (NGOs), planting of indigenous species, soil and water conservation, legal and scientific approaches will be helpful in formulating appropriate management strategies for its conservation in future.

CONCLUSION

The Orans of Desert region, serve five main purposes: vegetation as grazing ground, traditional water body and shelter for the livestock; medicine in ethno botanical form and wild relative gene pool for crop improvement and biodiversity conservation. Despite of all the characteristics, Orans have undergone decline and shrinkage due to anthropozoogenic activities and environmental factors. Efforts should be made to protect these Orans by making new government policies and public awareness.

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